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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/554,023	10/21/2005	Harumi Sakamoto	Q90684	2860
23373 7590 01/14/2008 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER MOORE, MARGARET G	
			ART UNIT 1796	PAPER NUMBER
			MAIL DATE 01/14/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/554,023

**Applicant(s)**

SAKAMOTO ET AL.

**Examiner**

Margaret G. Moore

**Art Unit**

1796

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 to 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____                                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____   | 6) <input type="checkbox"/> Other: ____                           |

1. Claims 10, 11, 14 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: any and all of the actual process steps.

2. Claims 1 to 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is unclear what is embraced by "late transition metal".

In claim 4, it is unclear what is meant by "wherein X may be bonded to R<sub>5</sub> or may be absent". From the formula shown, X is required and cannot be absent.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 to 9, 12 and 13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Doi et al.

The instant claims are in a product by process format, wherein the process of making a polyolefin graft copolymer requires the use of a particular catalyst. Do et al. teach polyolefin graft copolymers prepared from the same monomers but do not use the particular catalyst found in the claims. The final products, however, appear to be structurally the same. Note that Doi et al. teach emulsion polymerization of a silicone

macromonomer and a vinyl monomer (abstract). Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. Please note MPEP 2113, which addresses the appropriateness of a rejection under 35 USC 102/103 for product by process claims.

For claim 6, see the branching monomers on column 6, lines 55 and on. For claim 7, see column 6, line 44. For claim 5, see column 3, lines 30 and on. For claim 9, note that the copolymer itself is a polyolefin resin and meets this requirement.

6. Claims 1 to 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doi et al. in view of Brown et al.

As noted above, Doi et al. teach a method similar to applicants, albeit without the use of a late transition metal complex coordination catalyst. Rather, the polymerization in Doi et al. is initiated by a free radical initiator as found on column 8, lines 28 and on.

Brown et al. teach on column 1, lines 23 and on, that non-free radical polymerization of ethylenically unsaturated monomers is known. This polymerization uses catalysts rather than initiators. Brown et al. continue to describe an emulsion polymerization using a catalyst such as claimed. See for instance the specific teachings on column 7, lines 60 and on, particularly column 9, lines 20 to 40. This shows a catalyst meeting claims 2 to 4. This polymerization differs from that claimed in that it does not require the presence of a silicone macromonomer.

It is prima facie obvious to substitute equivalents, motivated by the reasonable expectation that the respective species will behave in a comparable manner or give comparable results in comparable circumstances. In re Ruff 118 USPQ 343; In re Jezel 158 USPQ 99; the express suggestion to substitute one equivalent for another need not be present to render the substitution obvious. In re Font, 213 USPQ 532. In the instant situation, it would have been obvious to replace the polymerization initiators of Doi et al.

with a polymerization catalyst in an effort to obtain a perform a comparable polymerization process. Likewise, the final products would be expected to be the same. In this manner the instant claims are rendered obvious.

For claims 6, 7 and 9, see that noted in paragraph 5, supra.

7. Claims 1 to 6, 8, 9, 12 and 13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lee et al.

This rejection again relies on the product by process rationale noted in paragraph 5, supra. Lee et al. teach graft copolymers prepared by emulsion polymerization. See for instance the abstract. This copolymer specifically includes a polybutylene macromonomer. The emulsion polymerized copolymer in Lee et al. is not prepared by the process found in claim 1, but the final products per se appear to be the same. Again, note the rejection rationale noted in paragraph 6 as it presently applies.

The polybutylene component also meets the requirement of claim 8. Note that many of the polybutylene components are polyfunctional, meeting claim 6.

8. Claims 1 to 6 and 8 to 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. in view of Brown et al.

Lee et al. differ from that claimed in that they do not teach polymerization in the presence of a catalyst as found in claim 1.

The teachings of Brown et al. were noted supra. Brown et al. indicates that polymerization catalysts such as those found in claims 2 to 4 can be used in the alternative to free radical initiators.

In the instant situation, it would have been obvious to replace the polymerization initiators of Lee et al. with a polymerization catalyst in an effort to obtain a perform a comparable polymerization process. Likewise, the final products would be expected to be the same. In this manner the instant claims are rendered obvious.

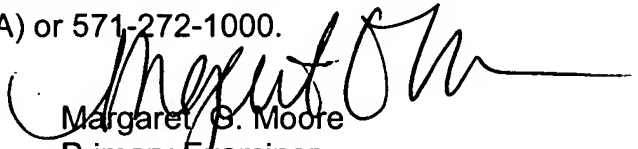
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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret G. Moore whose telephone number is 571-272-1090. The examiner can normally be reached on Monday and Wednesday to Friday, 10am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Margaret G. Moore  
Primary Examiner  
Art Unit 1796

mgm  
1/7/08